

UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF MISSOURI  
EASTERN DIVISION

ADVANCED SOFTWARE )  
DESIGN CORPORATION, et al., )  
                       )  
Plaintiffs,           )  
                       )  
vs.                   )              Case No. 4:07CV185 CDP  
                       )  
FISERV, INC.,        )  
                       )  
Defendant.           )

**MEMORANDUM AND ORDER**

In order to decrypt a coded message, there must first be an encryption of that message. Similarly, in order to validate a negotiable instrument by reading and decrypting a security code, that code must first have been generated and printed on the instrument. The process of encryption is not an “environment” in which the process of decryption takes place. Rather, as the patent in this case demonstrates, encryption and decryption are two sides of the same coin – they work in tandem, and each is dependent on the other for the system as a whole to make sense. For this reason, Advanced Software’s patent for enhancing the security of negotiable instruments necessarily embraces two processes – one of encryption and printing, and one of decryption and validation. Because Advanced Software cannot prove that defendant Fiserv performs both of these processes,

Fiserv cannot be said as a matter of law to infringe Advanced Software’s patent. I will therefore grant Fiserv’s motion for summary judgment of non-infringement.

### **Background**

Plaintiffs Calin Sandru and Advanced Software hold a patent for an invention designed to enhance the security of negotiable instruments.<sup>1</sup> Plaintiffs have sued Fiserv, Inc., claiming that Fiserv infringes the patent through sale and use of the Secure Seal check authentication system.

#### A. Secure Seal

Secure Seal uses a mathematical algorithm and a series of secret keys to encode check information in a graphical “seal” that can only be read and decoded by someone who has the proper key for decrypting it. The parties agree that Secure Seal can work in a number of ways. In the first instance, Fiserv sells the Secure Seal product to commercial banks. These banks then use Secure Seal to print checks that bear the encrypted graphic images containing information about the checks such as the amount or the payee name. When the check is presented for payment, the bank uses Secure Seal to read and decode the graphic image and compares the decrypted information to the information found on the check face to see if the check has been forged or altered. If the decrypted information and the

---

<sup>1</sup>Sandru is the inventor of the patent and is the founder, president, and majority shareholder of Advanced Software. Sandru licenses his invention to Advanced Software.

information from the check face differ, the bank may refuse to honor the check. In some instances, a bank may hire a third party to process its checks and perform the validation step.

Another way in which Secure Seal can work is through coordination between the bank and its account holders or customers. A bank customer can print its own checks with the encrypted graphic image. The bank then decrypts and validates the check when it is presented or hires a third party to do the same.

Fiserv is not a bank, and does not perform any of the steps that a bank might perform when printing or issuing checks. However a division of Fiserv, Fiserv Item Processing Services (FIPS), acts as a third party validator for banks in some instances. Not every bank that uses Secure Seal chooses to hire FIPS as its check processor.

In total, there are four classes of entities that use or have some relation to Secure Seal. First, Fiserv, Inc. designs and sells the Secure Seal software. Second, commercial banks are the purchasers and users of the Secure Seal product. Third, the banks' customers may print their own checks using Secure Seal. Finally, third party validators (one of which is FIPS) may be hired by the banks to do check processing.

B. Advanced Software's Patent

Advanced Software alleges that Fiserv's Secure Seal program infringes two sets of claims in Advanced Software's patent No. 6,792,110 ('110 patent). The first set of claims reads as follows:

1. A process for validating a negotiable financial instrument made by a payor, in which selected information found on the financial instrument which varies for each instantiation of the financial instrument made by the same payor is encrypted in combination with key information not found on the financial instrument to generate a control code which is printed on the financial instrument along with the selected information, the process comprising:

reading the selected information from the financial instrument; and

one of (i) decrypting the control code to thereby obtain decrypted information whereby the cheque validator may refuse to honor the financial instrument if the selected information found on the financial instrument does not match the decrypted information, and (ii) re-encrypting the selected information as presented on the financial instrument to re-obtain a second control code, whereby the cheque validator may refuse to honour the financial instrument if the second control code does not match the control code printed on the financial instrument.

5. A process according to claim 1, where in the negotiable instrument is a cheque.
6. A process according to claim 1, wherein machine-readable characters corresponding to the control code are printed on the instrument.
7. A process according to claim 1, wherein the selected information includes a monetary value of the instrument.

8. A process according to claim 1, wherein the selected information includes a payee of the instrument.

The second set of claims are system claims that parallel the process claims in the first set, and read as follows:

9. A system for validating the authenticity of selected information found on a negotiable financial instrument, wherein the selected information varies for each instantiation of the financial instrument presented by the same payor, and wherein the selected information is encrypted in combination with key information not found on the financial instrument to generate a control code which is printed on the financial instrument along with the selected information, the system comprising:

a scanner for reading the selected information and the control code from the financial instrument; and

a data processing device programmed to (i) decrypt the control code and generate decrypted information for comparison against the selected information found on the financial instrument and for generating a signal in response to the equality thereof, or, (ii) re-encrypt the selected information as found on the financial instrument to re-obtain a second control code and for generating a signal in response to the quality of the control code found on the financial instrument against the second control code.

13. A system according to claim 9, wherein the negotiable instrument is a cheque.
14. A system according to claim 9, wherein the selected information includes a monetary value of the selected instrument.
15. A system according to claim 9, wherein the selected information includes a payee of the instrument.

Following the *Markman* hearing held on November 24-25, 2008, I issued a memorandum opinion that construed some of the terms used in the ‘110 patent. According to the claim construction evidence presented at the *Markman* hearing, Advanced Software’s invention works in two stages. In the first stage, selected information from the check (such as the amount or the payee name) is combined with key information not found on the check. This combination is then encrypted using a known cryptographic scheme or algorithm. The result of the encryption is a control code that is then represented as a bar code or other image and placed on the check. In the second stage, one of two things may happen. In one embodiment of the invention, the control code can be scanned and read from the check face, decrypted, and then compared to the selected information on the check to see if the control code and the selected information match. Alternatively, the selected information can be read from the check, re-encrypted, and made into a second control code. This control code can be compared to the first control code already on the check to see if the codes match.

As described here, the “first stage” of Advanced Software’s invention (the encryption stage) is set forth in the preambles to Claims 1 and 9 of the ‘110 patent. The “second stage” (which can be decryption or re-encryption) is contained in the body of the two claims, following the word “comprising.” Thus, Advanced Software argues that encryption isn’t really a claimed part of the invention at all –

encrypted checks with control codes are merely the “environment” in which the real invention of check validating takes place.

Advanced Software alleges that Fiserv directly infringes the ‘110 patent when Fiserv Item Processing Services processes and authenticates checks using Secure Seal. That is to say, when FIPS processes checks for Fiserv’s customers, it decrypts and validates checks that contain the Secure Seal, and thereby, plaintiffs contend, performs each of the steps claimed in Advanced Software’s patent. Additionally, Advanced Software claims that Fiserv indirectly infringes the patent when it directs banks using Secure Seal to validate their checks either in house or through other third party validators that are not FIPS.

Alternatively, Advanced Software argues that if its construction of the ‘110 patent is not correct (i.e., if both the printing-encryption process *and* the validating-decryption process are part of the claimed invention), Fiserv is still liable as an infringer because it induces Secure Seal customers to infringe the claimed processes.

### **Discussion**

The standards for summary judgment are well settled. In ruling on summary judgment, the Court views the facts and inferences therefrom in the light most favorable to the nonmoving party. *Matsushita Elec. Indus. Co., Ltd. v. Zenith Radio Corp.*, 475 U.S. 574, 587 (1986). The moving party has the burden to

establish both the absence of a genuine issue of material fact and that it is entitled to judgment as a matter of law. Fed. R. Civ. P. 56; *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 247 (1986); *Celotex Corp. v. Catrett*, 477 U.S. 317, 322 (1986). Once the moving party has met this burden, the nonmoving party may not rest on the allegations in its pleadings but must set forth by affidavit or other evidence specific facts showing that a genuine issue of material fact exists. Fed. R. Civ. P. 56(e). At the summary judgment stage, I will not weigh the evidence and decide the truth of the matter, but rather I need only determine if there is a genuine issue for trial. *Anderson*, 477 U.S. at 249.

### **Infringement**

#### A. **Preamble Claim Construction**

The claim language that now lies at the center of the dispute between the parties is contained in the preamble of Claims 1 and 9.<sup>2</sup> The determination of whether preamble recitations are structural limitations or mere statements of purpose or use “can be resolved only on review of the entirety of the patent to gain an understanding of what the inventors actually invented and intended to encompass by the claim.” *Rowe v. Dror*, 112 F.3d 473, 478 (Fed. Cir. 1997)

---

<sup>2</sup>In Claim 1, the language at issue is the claim language in between the words “in which” and “the process comprising.” In Claim 9, the language falls between the words “wherein” and “the system comprising.” In both cases, the language at issue is the claim language that discusses the process or system of encrypting a combination of key information and selected information, generating a control code, and placing the control code on a check face.

(quoting *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1257 (Fed. Cir. 1989)). “In general, a preamble limits the invention if it recites essential structure or steps, or if it is necessary to give life, meaning, and vitality to the claim.” *Catalina Mktg. Int’l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002). A preamble is not limiting, however, “where a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention.” *Id.* (quoting *Rowe*, 112 F.3d at 478 (Fed. Cir. 1997)).

The parties here do not dispute that the preambles to Claims 1 and 9 act as a limitation on the claims. They do, however, dispute what that limitation is. Advanced Software maintains that the limitation is merely environmental. That is, the preamble describes the circumstances in which decryption and validation take place, but the preamble is not itself part of the steps that make up the validation process or system.<sup>3</sup> Fiserv, on the other hand, argues that the “limitations in the body of the claim rely upon and derive antecedent basis from the preamble.” *Eaton Corp. v. Rockwell Intern. Corp.*, 323 F.3d 1332, 1339 (Fed. Cir. 2003). According to Fiserv, the preamble is not merely an environmental limitation but

---

<sup>3</sup>Advanced Software did not make this argument at all during the claims construction portion of this litigation, and, in fact, its arguments during the *Markman* process cannot be reconciled with its current position.

rather describes necessary steps in carrying out the invention to enhance the security of checks.

The evidence in the record and the patent as a whole support Fiserv's construction. In order to be understood as a "structurally complete invention," the patent must include a claimed process for encrypting and printing the code that is later decrypted or re-encrypted. In fact, the patent describes itself as an invention that "applies or prints certain security features onto a negotiable instrument." Furthermore, the prosecution history shows that plaintiffs relied on the limitations contained in the preamble to obtain the patent. Plaintiffs argued specifically that the method of encryption described in the preamble was a unique, patentable aspect of the invention. *See Bass Pro Trademarks, LLC v. Cabela's, Inc.*, 485 F.3d 1364, 1369 (Fed. Cir. 2007) (holding that a patentee who relies on a preamble as a claim limitation when prosecuting a patent cannot later claim that the preamble is not a limitation). Further, the dependent claims would add nothing if the preambles to the independent claims are construed as only the "environment," because the dependent claims add elements to the encryption process described in the preamble. They do not add elements to the decryption process that Advanced Software contends is the invention. Taken as a whole, the patent does not merely claim a process for validating and decrypting a code that already exists. Rather, it

claims a comprehensive scheme for securing negotiable instruments that works both through printing and encryption, *and* validation and decryption.

B. *BMC Resources* and *Muniauction*

Following oral argument on the pending motions for summary judgment, I directed the parties to file supplemental briefs addressing the impact on this case of two Federal Circuit cases, *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318 (Fed. Cir. 2008), and *BMC Resources, Inc. v. Paymentech, L.P.*, 498 F.3d 1373 (Fed. Cir. 2007). These recent cases clarified Federal Circuit law on infringement in situations where more than one party participates in the process that is alleged to infringe the patent. In the case of Advanced Software, the ‘110 patent contemplates both a check validator and a check maker or encryptor. I directed the parties to explain how these multiple actors can work to infringe the patent, and how Fiserv’s Secure Seal does or does not perform all the necessary steps of the claimed process.

*BMC* and *Muniauction* make clear that direct infringement requires a single party to perform every step of a claimed method. *Muniauction*, 532 F.3d at 1329; *BMC Resources*, 498 F.3d at 1380. Where the actions of multiple parties combine to perform every step of a claimed method, the claim is directly infringed only if one party exercises “control or direction” over the entire process such that every step is attributable to the controlling party, i.e., the “mastermind.” *Muniauction*,

532 F.3d at 1329. The control or direction standard is satisfied in situations where the law would traditionally hold the accused direct infringer vicariously liable for the acts committed by another party that are required to complete performance of a claimed method. *Muniauction*, 532 F.3d at 1330; *BMC Resources*, 498 F.3d at 1379.

Advanced Software argues that the holdings of *BMC* and *Muniauction* are inapplicable to this case because the ‘110 patent does not require the participation of multiple actors. According to Advanced Software, one entity – the check validator – performs each and every claimed step in the patent. In the case of Fiserv Item Processing Services, that one entity is Fiserv itself, and Fiserv is the direct infringer of the patent. In cases where another entity such as a bank or third party check processor does the validating, Fiserv indirectly infringes the patent because Fiserv exercises control or direction over the validating process. At no point do the actions of multiple parties have to be combined or strung together to constitute an infringing scheme.

For the reasons set forth in the discussion above relating to preamble construction, Advanced Software’s argument is not persuasive. The invention described by the ‘110 patent does two things. It encrypts check data using a cryptographic algorithm to generate a control code, and then it uses that control code to validate the check. To hold that the patent does not claim a process for

encryption would render the patent nonsensical. It would also render the parties' protracted and extensive claim construction arguments during the *Markman* hearing about what it means to "encrypt" irrelevant. Everything about the '110 patent, from its text to its prosecution history to the way in which plaintiffs have litigated this case, suggests that the patented invention both encrypts check information into a control code, and then validates checks by decrypting that code. Generating the control code through encryption is the necessary logical antecedent to validating the control code through decryption.

For this reason, the patent implicates the actions of multiple parties, and plaintiffs must satisfy the requirements of *BMC* and *Muniauction* in order to make their case for infringement. They have not done so. Plaintiffs' only claim for direct infringement on the part of Fiserv stems from the operations of Fiserv's Item Processing Services. But FIPS does not print checks. It does not encrypt check data, and it does not generate control codes. More generally, Advanced Software has failed to show that Fiserv participates in *any* scheme to print checks with encrypted control codes. At most, Fiserv sells software that enables its customers to encrypt and print checks. But this fact alone is not sufficient to establish that Fiserv is a direct infringer of Advanced Software's patent. *See Joy Tech., Inc. v. Flakt, Inc.*, 6 F.3d 770, 773 (Fed. Cir. 1993) (holding that the sale of

an apparatus is not direct infringement because a method or process claim is directly infringed only when the process is performed).

C. Induced Infringement

Finally, Advanced Software raises an alternative argument in its supplemental brief that relates to induced infringement. Advanced Software argues that even if Fiserv's construction of the patent claims is accepted and multiple actors are required to print checks and validate checks, Fiserv is still liable for having induced its customers to infringe the '110 patent.

Unlike direct infringement under 35 U.S.C. § 271(a), induced infringement under § 271(b) requires that a plaintiff establish evidence of culpable conduct directed toward encouraging another's infringement. *See DSU Medical Corp. v. JMS Co., Ltd.*, 471 F.3d 1293 (Fed. Cir. 2006). A plaintiff must show that the defendant "actively and *knowingly* aided and abetted another's direct infringement." *Water Techs. Corp. v. Calco, Ltd.*, 850 F.2d 660, 668 (Fed. Cir. 1988) (emphasis in original). Advanced Software has presented no evidence and has made no effort to build a case showing Fiserv's actual knowledge or state of mind regarding infringement. Advanced Software did not raise induced infringement in its infringement contentions, and makes only a minimal argument on the subject in its supplemental brief. To allow Advanced Software to change

course now and proceed to trial on a completely new theory of infringement would be grossly inequitable.

D. Conclusion

Fiserv has conclusively demonstrated that it does not encrypt or print negotiable instruments, and that it therefore does not perform all of the necessary steps required in Claims 1 and 9 of Advanced Software's '110 patent. Accordingly, Fiserv necessarily does not directly infringe the remaining asserted claims that are dependent on Claims 1 and 9. Advanced Software has failed to raise any genuine issue of material fact on this point. Additionally, Advanced Software has not put forth sufficient evidence to establish any genuine issue for trial on alleged induced infringement on the part of Fiserv. The undisputed evidence shows that Fiserv is entitled to judgment as a matter of law on the claims that it infringes the '110 patent. I will therefore grant its motion for summary judgment of non-infringement, and I will deny plaintiff's motion for partial summary judgment on the issue of infringement. Defendant is entitled to judgment on plaintiff's claims of infringement and on its own counterclaim seeking a declaration of non-infringement.

## **Invalidity**

I have carefully considered the parties' summary judgment arguments related to invalidity. I conclude that genuine issues of material fact remain regarding whether the patent claims at issue here are invalid. I will therefore deny both plaintiffs' and defendant's motions for summary judgment related to invalidity.

Count VI of defendant's counterclaim, which seeks a declaration that the claims of the '110 patent are invalid, thus remains for trial. An actual case or controversy exists regarding invalidity, under the standards of *Cardinal Chemical Co. v. Morton International, Inc.*, 508 U.S. 83 (1993), and *MedImmune, Inc. v. Genentech, Inc.*, 127 S.Ct. 764, 776-777 (2007). In all cases brought under the Declaratory Judgment Act, however, I have discretion regarding whether to hear the claim. *See Wilton v. Seven Falls Co.*, 515 U.S. 277 (1995) ("District courts possess discretion in determining whether and when to entertain an action under the Declaratory Judgment Act, even when the suit otherwise satisfies subject matter jurisdictional prerequisites."). This rule applies to patent cases: "A district court judge faced with an invalidity counterclaim challenging a patent that it concludes was not infringed may either hear the claim or dismiss it without prejudice . . ." *Liquid Dynamics Corp. v. Vaughan Co., Inc.*, 355 F.3d 1361, 1371

(Fed. Cir. 2004), (citing *Nystrom v. TREL Co.*, 339 F.3d 1347, 1351 (Fed. Cir. 2003)).

I conclude that it is appropriate in this case to exercise my discretion to dismiss the invalidity count of the counterclaim without prejudice, rather than proceed to trial on the invalidity issue. A trial of the invalidity counterclaim would be long, expensive, and complicated. If my determination regarding infringement is correct – which of course I believe it is – the trial would have been an unnecessary waste of resources. The parties have not presented anything that leads me to believe that resolution of the infringement issues will not resolve their disputes entirely, and I therefore decline to hold a trial on the remaining issues of invalidity.

Accordingly,

**IT IS HEREBY ORDERED** that defendant's motion [#154] for summary judgment on defendant's claim of non-infringement is GRANTED and defendant is entitled to a declaration of non-infringement; plaintiff's motion for summary judgment on infringement [#113] is DENIED.

**IT IS FURTHER ORDERED** that defendant's motion for summary judgment on plaintiff's willfulness claim [#143] is DENIED as moot.

**IT IS FURTHER ORDERED** that defendant's motion [#139] for summary judgment on plaintiff's lack of standing is DENIED as without merit.

**IT IS FURTHER ORDERED** that because genuine disputes of material fact remain on the validity of the patent, both motions for summary judgment regarding invalidity [##135, 148] are DENIED.

**IT IS FINALLY ORDERED** that, under the discretion granted me by the Declaratory Judgment Act, I decline to further consider the issues raised by Count VI of the counterclaim, seeking declaration of invalidity, and Count VI is dismissed without prejudice.

A judgment in accord with this Memorandum and Order is entered separately.



---

CATHERINE D. PERRY  
UNITED STATES DISTRICT JUDGE

Dated this 31st day of August, 2009.